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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2012 Navy **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b>				<b>R-1 ITEM NOMENCLATURE</b>							
1319: <i>Research, Development, Test &amp; Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>				PE 0604402N: <i>Unmanned Combat Air Veh(UCAV) Adv Cp/Proto Dev</i>							
<b>COST (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	295.738	266.368	198.298	-	198.298	143.142	41.975	-	-	0.000	945.521
3178: <i>Unmanned Combat Air System CV-Demo (UCAS-D)</i>	295.738	196.068	198.298	-	198.298	143.142	41.975	-	-	0.000	875.221
3191: <i>UCAS Technical Maturation</i>	-	70.300	-	-	-	-	-	-	-	0.000	70.300

**A. Mission Description and Budget Item Justification**

The 2005 Quadrennial Defense Review published February 2006 and OSD Advanced Technology & Logistics Executive Committee Memorandum of February 2006 supported direction to restructure the Joint Unmanned Combat Air System (UCAS) program into a new Navy UCAS program. The Navy UCAS program will develop an unmanned, longer-range, carrier-based aircraft capable of being air-refueled to provide greater standoff capability, to expand payload and launch options, and to increase naval reach and persistence. The Navy was directed to demonstrate carrier operations, including Autonomous Aerial Refueling, of a Low Observable (LO) planform UCAS and to mature required technologies to a Technology Readiness Level-6; which, is required to enter Milestone B for a potential follow on acquisition program.

The Navy UCAS designed for autonomous launch and recovery as well as operations in the Carrier Control Area, is comprised of an Air Vehicle Segment, a Mission Control Segment (MCS) and a government led Aircraft Carrier Integration Segment. The scope of the Navy UCAS effort includes design, development, integration, and validation of an unmanned, LO planform Air Vehicle Segment and MCS in the land-based and shipboard environments. Evaluations will be conducted to investigate MCS interfaces with shipboard systems such as Primary Flight Control displays, Landing Safety Officer displays, and Carrier Air Traffic Control Center stations.

The Navy UCAS program will be structured to match program resources to United States Navy objectives/constraints with the goals of identifying and maturing critical technologies and reducing the risk of carrier integration of a UCAS. Candidate Technology Maturation efforts include transformational communications, advanced integrated propulsion, aircraft carrier suitable materials, LO sensors and apertures, sense and avoid functionality (in an LO environment), autonomous operations (software algorithms and interfaces), and computer resource data storage and access systems. Modeling, simulation, analysis, industrial capability assessments, system/component development, and analysis of architectures and concept designs are being developed as a result of the demonstration. Maturation of candidate technologies support the evaluation of alternatives needed for a future milestone decision and subsequent entry into Engineering and Manufacturing Development (EMD). The Navy consolidated Project 3191 into Project 3178 in FY10 and subsequently separated them in FY11. Project 3191 was reprogrammed into Project 3178 in FY12-FY14. EMD funding is not covered, nor described in this exhibit.

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2012 Navy	<b>DATE:</b> February 2011
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604402N: <i>Unmanned Combat Air Veh(UCAV) Adv Cp/Proto Dev</i>
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<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>
Previous President's Budget	304.907	266.368	215.974	-	215.974
Current President's Budget	295.738	266.368	198.298	-	198.298
Total Adjustments	-9.169	-	-17.676	-	-17.676
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-8.302	-			
• Program Adjustments	-	-	-16.019	-	-16.019
• Section 219 Reprogramming	-0.849	-	-	-	-
• Rate/Misc Adjustments	-	-	-1.657	-	-1.657
• Congressional General Reductions Adjustments	-0.018	-	-	-	-

**Change Summary Explanation**

Technical: N/A

**Schedule:**

Project 3178: The following events were revised as part of the ongoing program baseline review.

- Air Vehicle-1 Development & Integration completion moved from 4th QTR FY09 to 1st QTR FY11.
- Air Vehicle-2 Development & Integration completion moved from 1st QTR FY11 to 4th QTR FY11.
- MCS Software Development, Integration & Support completion moved from 2nd QTR FY11 to 4th QTR FY12.
- Surrogate Testing completion moved from 4th QTR FY11 to 4th QTR FY13.
- First Flight moved from 2nd QTR FY10 to 2nd QTR FY11.
- Airworthiness Testing completion moved from 1st QTR FY11 to 2nd QTR FY12.
- Land Based Carrier Control Area, Catapult Launch & Arrestment Testing completion moved from 1st QTR FY12 to 4th QTR FY13.
- First Ship Landing moved from 2nd QTR FY12 to 2nd QTR FY13.
- Sea Trials completion moved from 3rd QTR FY13 to 4th QTR FY13.
- Ship Integration completion moved from 3rd QTR FY13 to 2nd QTR FY13.
- Autonomous Aerial Refueling (AAR)categories shown in PB-11 were removed and replaced with System Design, System Integration and Surrogate/Air Vehicle Flight Test to show the appropriate level of detail based on the amount of scope of the effort.
- AAR System Integration completion moved from 3rd QTR FY10 to 3rd QTR FY14

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development		R-1 ITEM NOMENCLATURE PE 0604402N: Unmanned Combat Air Veh(UCAV) Adv Cp/Proto Dev
<div>-AAR System Design completion moved from 2nd QTR FY11 to 4th QTR FY11. Project 3191: Reprogrammed into Project 3178 in FY12-FY14.</div>		

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy								DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0604402N: Unmanned Combat Air Veh(UCAV) Adv Cp/Proto Dev				PROJECT 3178: Unmanned Combat Air System CV-Demo (UCAS-D)			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
3178: Unmanned Combat Air System CV-Demo (UCAS-D)	295.738	196.068	198.298	-	198.298	143.142	41.975	-	-	0.000	875.221
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
A. Mission Description and Budget Item Justification											
The Navy Unmanned Combat Air System (UCAS), designed for autonomous launch and recovery as well as operations in the Carrier Control Area, is comprised of an Air Vehicle Segment, a Mission Control Segment (MCS) and a government led Aircraft Carrier Integration Segment. The scope of the Navy UCAS effort includes design, development, integration, and validation of an unmanned, Low Observable (LO) planform Air Vehicle Segment and MCS in the land-based and shipboard environments. Evaluations will be conducted to investigate MCS interfaces with shipboard systems such as Primary Flight Control displays, Landing Safety Officer (LSO) displays, and Carrier Air Traffic Control Center (CATCC) stations.											
The Navy consolidated Project 3191 into Project 3178 in FY10 and subsequently separated them in FY11. Project 3191 was reprogrammed into Project 3178 in FY12-FY14. Navy UCAS technology maturation efforts were contained within this project for FY10.											
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)								FY 2010	FY 2011	FY 2012	
Title: Product Development								255.302	173.188	168.544	
								Articles: 0	0	0	
Description: The primary effort in the Navy UCAS program is design, development, integration and validation of Air Vehicle Segment, MCS and government led Aircraft Carrier Segment leading to a Carrier demonstration of an unmanned, LO planform UCAS system, and development of internal/external interface documents. In addition, design and development of hardware/software to support Autonomous Aerial Refueling (AAR) will be conducted. Shipboard evaluation of the Navy UCAS includes integration of the Navy UCAS with shipboard systems such as Primary Flight Control displays, LSO displays and CATCC stations.											
FY 2010 Accomplishments:											
Continued efforts in the Navy UCAS program designing, developing, integrating and validating the Navy UCAS Air Vehicle Segment, MCS and government led Aircraft Carrier Integration Segment. Continued Air Vehicle 2 assembly and integration. Continued technology maturation, modeling, simulation, analysis, industrial capability assessments, system/component development, and analysis of architectures and concept designs previously included under Project 3191. Installed UCAS-D shipboard components on Nimitz class aircraft carrier. Continued design and development of hardware/software to support AAR.											
FY 2011 Plans:											
Continue efforts in the Navy UCAS program designing, developing, integrating and validating the Navy UCAS Air Vehicle Segment, MCS and government led Aircraft Carrier Integration Segment. Complete integration and checkout of Air Vehicle 2.											

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Navy			<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0604402N: <i>Unmanned Combat Air Veh(UCAV) Adv Cp/Proto Dev</i>		<b>PROJECT</b> 3178: <i>Unmanned Combat Air System CV-Demo (UCAS-D)</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>			<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
Installation of UCAS-D shipboard components on Nimitz class aircraft carrier. Continue design and development of hardware/software to support AAR.					
<b>FY 2012 Plans:</b> Continue efforts in the Navy UCAS program designing, developing, integrating and validating the Navy UCAS Air Vehicle Segment, MCS and government led Aircraft Carrier Integration Segment. Technical reviews required before sea-trials will be conducted. Installation of UCAS-D shipboard components on Nimitz class aircraft carrier. Continue AAR integration efforts.					
<b>Title:</b> Support			20.861	-	-
<b>Articles:</b>			0		
<b>FY 2010 Accomplishments:</b> Performed activities that supported the evaluation of alternatives needed for a future milestone decision and subsequent entry into Engineering and Manufacturing Development.					
<b>Title:</b> Test and Evaluation Support			9.049	11.337	15.443
<b>Articles:</b>			0	0	0
<b>FY 2010 Accomplishments:</b> Air Vehicle 1 conducted low, medium and high speed taxi testing. Conducted light civil surrogate and F/A-18D surrogate aircraft testing with Carrier Fixed Wing Nuclear (CVN)-72.					
<b>FY 2011 Plans:</b> Air Vehicle 1 will conduct its first flight and conduct airworthiness and envelope expansion testing at Edwards AFB. Air Vehicle 2 will conduct its first flight and conduct airworthiness and envelope expansion testing at Edwards AFB. Continue light civil surrogate and F/A-18D surrogate testing with Nimitz class aircraft carrier.					
<b>FY 2012 Plans:</b> After airworthiness and envelope expansion test completion, Air Vehicles 1 and 2 will transfer to Naval Air Warfare Center Aircraft Division (NAWCAD) Patuxent River, MD for shore-based carrier suitability testing. Conduct shore-based carrier suitability testing with Air Vehicles 1 and 2. Continue light civil surrogate and F/A-18D surrogate testing with Nimitz class aircraft carrier.					
<b>Title:</b> Management			10.526	11.543	14.311
<b>Articles:</b>			0	0	0
<b>FY 2010 Accomplishments:</b> Completed Government management, engineering, and contract support.					
<b>FY 2011 Plans:</b>					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Navy		<b>DATE:</b> February 2011	
<b>APPROPRIATION/BUDGET ACTIVITY</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604402N: <i>Unmanned Combat Air Veh(UCAV) Adv Cp/Proto Dev</i>	<b>PROJECT</b> 3178: <i>Unmanned Combat Air System CV-Demo (UCAS-D)</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2010</b>	<b>FY 2011</b>
Government management, engineering, and contract support.			
<b><i>FY 2012 Plans:</i></b> Government management, engineering, and contract support.			
<b>Accomplishments/Planned Programs Subtotals</b>		295.738	196.068
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A			
<b>D. Acquisition Strategy</b> In the 2005 Quadrennial Defense Review, the Navy was directed to restructure the Joint UCAS program and develop an unmanned, longer-range carrier-based aircraft capable of being air-refueled to provide greater aircraft carrier standoff capability, to expand payload and launch options, and to increase naval reach and persistence. The primary goal is risk reduction for carrier integration while developing the critical data necessary to support a potential follow on acquisition milestone decision. The Navy UCAS effort will focus on designing, developing, and evaluating the core capabilities which safely demonstrate carrier interoperability. Currently, primary hardware development for the Navy UCAS effort is being performed under a Federal Acquisition Regulation based, cost plus incentive fee-type contract competitively awarded to a single contractor.			
<b>E. Performance Metrics</b> Complete airworthiness and envelope expansion testing. Conduct shore-based carrier suitability testing. Conduct F/A-18D surrogate aircraft testing with Nimitz class aircraft carrier.			

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Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2012 Navy

DATE: February 2011

## APPROPRIATION/BUDGET ACTIVITY

1319: Research, Development, Test & Evaluation, Navy  
BA 7: Operational Systems Development

## R-1 ITEM NOMENCLATURE

PE 0604402N: Unmanned Combat Air  
Veh(UCAV) Adv Cp/Proto Dev

## PROJECT

3178: Unmanned Combat Air System CV-  
Demo (UCAS-D)

## Product Development (\$ in Millions)

				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Aviation/ Ship Integration	C/CPFF	Rockwell/AFRL:Rome, NY	7.585	0.950	Dec 2010	2.000	Nov 2011	-		2.000	3.200	13.735	13.735
Aviation/ Ship Integration	C/CPFF	L-3 Com Titan:MD	7.882	2.396	Dec 2010	2.000	Dec 2011	-		2.000	4.240	16.518	16.518
Aviation/Ship Integration	WR	NAWCAD:MD	28.015	11.611	Nov 2010	15.580	Nov 2011	-		15.580	24.109	79.315	
Aviation/Ship Integration	C/CPIF	Various:Various	2.142	2.100	Feb 2011	0.900	Jan 2012	-		0.900	2.200	7.342	7.342
Primary Hardware Development	C/CPIF	Northrop Grumman Corporation:CA	572.170	144.614	Nov 2010	129.187	Nov 2011	-		129.187	69.029	915.000	915.000
Systems Engineering	WR	NAWCAD:MD	20.870	8.916	Nov 2010	15.310	Nov 2011	-		15.310	30.636	75.732	
Product Development	Various	Various:Various	94.950	2.601	Dec 2010	3.567	Dec 2011	-		3.567	7.562	108.680	
<b>Subtotal</b>			733.614	173.188		168.544		-		168.544	140.976	1,216.322	

## Support (\$ in Millions)

				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior Years Support	Various	Various:Various	20.861	-		-		-		-	0.000	20.861	
<b>Subtotal</b>			20.861	-		-		-		-	0.000	20.861	

## Test and Evaluation (\$ in Millions)

				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	MIPR	Edwards AFB:CA	6.142	3.333	Nov 2010	4.737	Nov 2011	-		4.737	3.309	17.521	
Developmental Test & Evaluation	WR	NAWCAD:MD	8.741	7.633	Nov 2010	10.338	Nov 2011	-		10.338	21.035	47.747	
Test & Evaluation	Various	Various:Various	0.635	0.371	Nov 2010	0.368	Nov 2011	-		0.368	0.780	2.154	
<b>Subtotal</b>			15.518	11.337		15.443		-		15.443	25.124	67.422	

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis:</b> PB 2012 Navy										<b>DATE:</b> February 2011			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604402N: <i>Unmanned Combat Air Veh(UCAV) Adv Cp/Proto Dev</i>				<b>PROJECT</b> 3178: <i>Unmanned Combat Air System CV-Demo (UCAS-D)</i>					

<b>Management Services (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Contractor SEPM Support	C/CPIF	Various:Various	14.545	4.200	Dec 2010	3.487	Dec 2011	-		3.487	5.487	27.719	27.719
Government Engineering Support	WR	NAWCAD:MD	11.038	3.604	Nov 2010	5.676	Nov 2011	-		5.676	9.913	30.231	
Program Management Support	WR	NAWCAD:MD	7.865	3.250	Nov 2010	5.148	Nov 2011	-		5.148	9.200	25.463	
Management	Various	Various:Various	2.257	0.489	Dec 2010	-		-		-	0.000	2.746	
<b>Subtotal</b>			35.705	11.543		14.311		-		14.311	24.600	86.159	

	<b>Total Prior Years Cost</b>	<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>	805.698	196.068		198.298		-		198.298	190.700	1,390.764	

**Remarks**



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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

## APPROPRIATION/BUDGET ACTIVITY

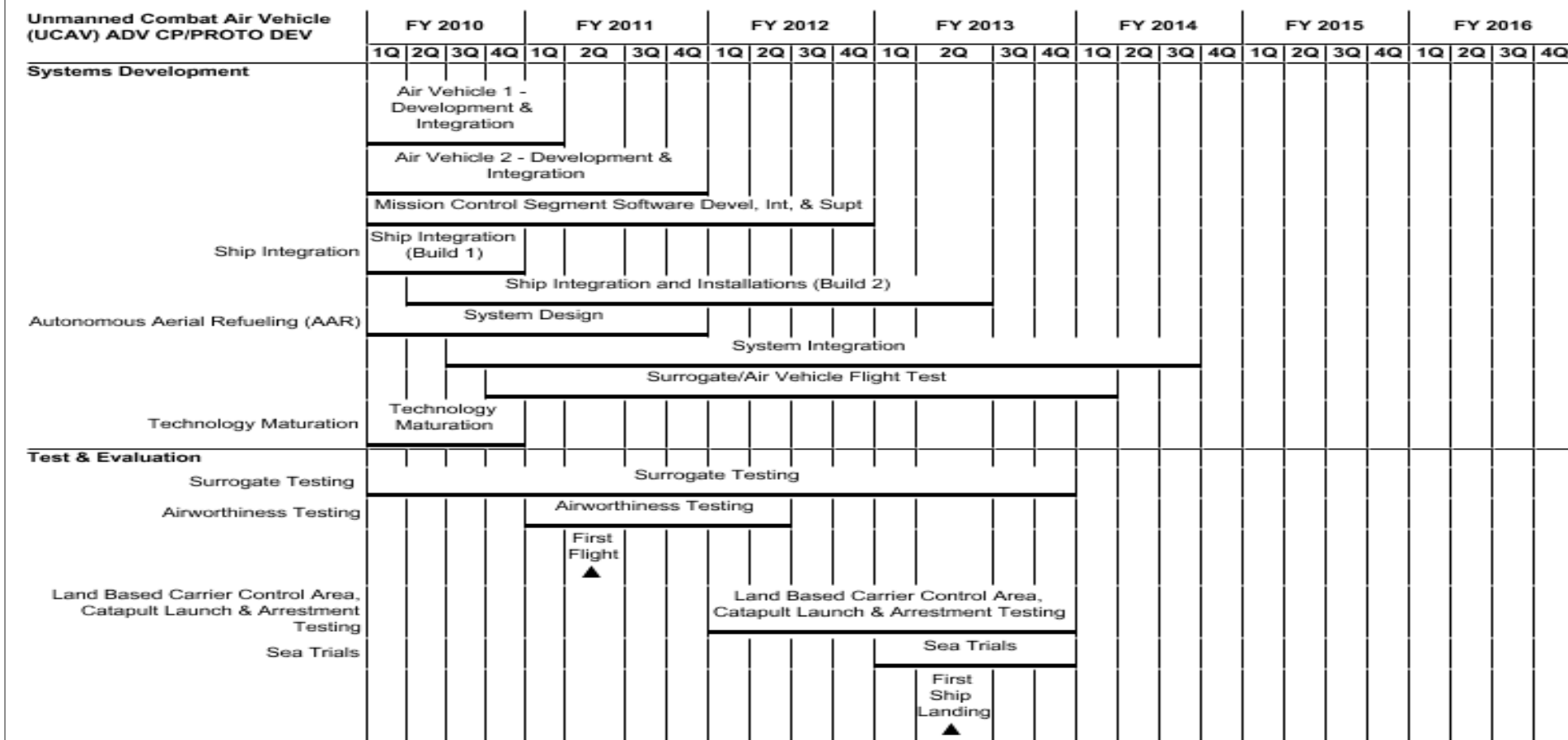
1319: Research, Development, Test & Evaluation, Navy  
BA 7: Operational Systems Development

## R-1 ITEM NOMENCLATURE

PE 0604402N: Unmanned Combat Air  
Veh(UCAV) Adv Cp/Proto Dev

## PROJECT

3178: Unmanned Combat Air System CV-  
Demo (UCAS-D)



2012PB - 0604402N - 3178

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2012 Navy			<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604402N: <i>Unmanned Combat Air Veh(UCAV) Adv Cp/Proto Dev</i>	<b>PROJECT</b> 3178: <i>Unmanned Combat Air System CV-Demo (UCAS-D)</i>	

**Schedule Details**

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b><i>Unmanned Combat Air Vehicle (UCAV) ADV CP/PROTO DEV</i></b>				
Systems Development: Air Vehicle 1	1	2010	1	2011
Systems Development: Air Vehicle 2	1	2010	4	2011
Systems Development: Software Devel, Int, & Supt	1	2010	4	2012
Systems Development: Ship Integration: Build 1	1	2010	4	2010
Systems Development: Ship Integration: Build 2	2	2010	2	2013
Systems Development: Autonomous Aerial Refueling (AAR): System Design - AAR	1	2010	4	2011
Systems Development: Autonomous Aerial Refueling (AAR): System Integration - AAR	3	2010	3	2014
Systems Development: Autonomous Aerial Refueling (AAR): Surrogate/Air Vehicle Flight Test - AAR	4	2010	1	2014
Systems Development: Technology Maturation: Technology Maturation	1	2010	4	2010
Test & Evaluation: Surrogate Testing: Surrogate Testing	1	2010	4	2013
Test & Evaluation: Airworthiness Testing: Airworthiness Testing	1	2011	2	2012
Test & Evaluation: Airworthiness Testing: Airworthiness Testing - First Flight	2	2011	2	2011
Test & Evaluation: Land Based Carrier Control Area, Catapult Launch & Arrestment Testing: Land Based Carrier Control Area, Catapult Launch & Arrestment Testing	1	2012	4	2013
Test & Evaluation: Sea Trials: Sea Trials	1	2013	4	2013
Test & Evaluation: Sea Trials: First Ship Landing	2	2013	2	2013

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy								DATE: February 2011							
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost				
3191: UCAS Technical Maturation	-	70.300	-	-	-	-	-	-	-	0.000	70.300				
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0						
A. Mission Description and Budget Item Justification															
<p>The Navy Unmanned Combat Air System (UCAS) program is an Advanced Development effort. The Navy UCAS program will be structured to match program resources to United States Navy objectives/constraints with the goals of identifying and maturing critical technologies and reducing the risk of carrier integration of a UCAS. Candidate technology maturation efforts include transformational communications, advanced integrated propulsion, aircraft carrier suitable materials, Low Observable (LO) sensors and apertures, sense and avoid functionality (all operating in a LO environment), autonomous operations (software algorithms and interfaces), and computer resource data storage and access systems. Modeling, simulation, analysis, industrial capability assessments, system/component development, and analysis of architectures and concept designs are being developed as a result of the demonstration. Maturation of candidate technologies support the evaluation of alternatives needed for a future milestone decision and subsequent entry into Engineering and Manufacturing Development (EMD). EMD funding is not covered, nor described in this exhibit.</p> <p>The Navy consolidated Project 3191 into Project 3178 in FY10 and subsequently separated them in FY11. Project 3191 was reprogrammed into Project 3178 in FY12-FY14. Navy UCAS technology maturation efforts are contained within Project 3178 for FY10.</p>															
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)								FY 2010	FY 2011	FY 2012					
<p>Title: Product Development</p> <p>Articles:</p> <p>Description: Identification and maturation of technologies required to support the demonstration of an unmanned, LO planform Navy UCAS on an aircraft carrier including modeling, simulation, analysis, industrial capability assessments, system/component development, and analysis of architectures and concept designs to support the evaluation of alternatives needed for a future milestone decision and subsequent entry into EMD.</p> <p>FY 2011 Plans:</p> <p>Continue technology maturation, modeling, simulation, analysis, industrial capability assessments, system/component development, and analysis of architectures and concept designs.</p>								-	43.200 0	-					
<p>Title: Support</p> <p>Articles:</p> <p>FY 2011 Plans:</p>								-	27.100 0	-					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Navy		<b>DATE:</b> February 2011	
<b>APPROPRIATION/BUDGET ACTIVITY</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604402N: <i>Unmanned Combat Air Veh(UCAV) Adv Cp/Proto Dev</i>	<b>PROJECT</b> 3191: <i>UCAS Technical Maturation</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2010</b>	<b>FY 2011</b>
Perform activities that support the evaluation of alternatives needed for a future milestone decision and subsequent entry into EMD.			
<b>Accomplishments/Planned Programs Subtotals</b>		-	70.300
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A			
<b>D. Acquisition Strategy</b> In the 2005 Quadrennial Defense Review, the Navy was directed to restructure the Joint UCAS program and develop an unmanned, longer-range carrier-based aircraft capable of being air-refueled to provide greater aircraft carrier standoff capability, to expand payload and launch options, and to increase naval reach and persistence. The primary goal is risk reduction for maturation of critical technologies, while developing the critical data necessary to support a potential follow on acquisition milestone decision. The Navy UCAS effort will focus on designing, developing, and evaluating the core capabilities which safely demonstrate carrier interoperability. As part of this effort, individual contracts will be awarded either competitively or sole sourced in a firm fixed price or cost plus arrangement to evolve various technologies to meet the Technology Readiness Level-6 to support the Advanced Development effort.			
<b>E. Performance Metrics</b> The goal of the Technology Maturation Project Unit is to identify and mature critical technologies and reduce the risk of carrier integration of a UCAS.			

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis:</b> PB 2012 Navy											<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604402N: <i>Unmanned Combat Air Veh(UCAV) Adv Cp/Proto Dev</i>				<b>PROJECT</b> 3191: <i>UCAS Technical Maturation</i>					
<b>Product Development (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Advanced Development Eng	Various	NSMA:Arlington, VA	-	43.200	Dec 2010	-		-		-	0.000	43.200	
<b>Subtotal</b>			-	43.200		-		-		-	0.000	43.200	
<b>Support (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Studies & Analyses	C/CPFF	Various:Various	-	1.500	Feb 2011	-		-		-	0.000	1.500	
Concept Development	WR	NAWCAD:MD	-	7.500	Nov 2010	-		-		-	0.000	7.500	
Concept Development	C/CPIF	TBD:TBD	-	18.100	Jan 2011	-		-		-	0.000	18.100	
<b>Subtotal</b>			-	27.100		-		-		-	0.000	27.100	
			<b>Total Prior Years Cost</b>	<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>			-	70.300		-		-		-	0.000	70.300	
<b>Remarks</b>													

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**Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy**

**DATE:** February 2011

**APPROPRIATION/BUDGET ACTIVITY**

1319: *Research, Development, Test & Evaluation, Navy*  
BA 7: *Operational Systems Development*

**R-1 ITEM NOMENCLATURE**

PE 0604402N: *Unmanned Combat Air Veh(UCAV) Adv Cp/Proto Dev*

**PROJECT**

3191: *UCAS Technical Maturation*

UCAS Technical Maturation	FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
<b>Technology Maturation</b>																												
Acquisition Planning																												
Advanced Development Engineering																												
Concept Development																												

2012PB - 0604402N - 3191

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2012 Navy			<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604402N: <i>Unmanned Combat Air Veh(UCAV) Adv Cp/Proto Dev</i>	<b>PROJECT</b> 3191: <i>UCAS Technical Maturation</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b><i>UCAS Technical Maturation</i></b>				
Technology Maturation: Acquisition Planning: Acquisition Planning	1	2011	4	2011
Technology Maturation: Advanced Development Engineering: Advanced Development Engineering	1	2011	4	2011
Technology Maturation: Concept Development: Concept Development	1	2011	4	2011